1. An x-ray tube component comprising:

a first metallic component comprised of a material that is substantially non-transmissive to x-radiation; a second metallic melt component, mixed with the first metallic component in a manner so as to form a predetermined component shape; and wherein the mixture of the first metallic component with the second metallic melt component together limits the amount of x-radiation that is able to pass through the x-ray tube component to a predetermined level.

2. An x-ray tube as defined in claim 1, wherein the first metallic component material includes tungsten.

3. An x-ray tube as defined in claim 2, wherein the tungsten is in an amount that is in a range from about 50% to about 99% by weight of the x-ray tube component.

4. An x-ray tube as defined in claim 1 wherein the second metallic melt component includes copper.

5. An x-ray tube as defined in claim 4, wherein the copper is in an amount that is in a range from about 1% to about 50% by weight of the x-ray tube component.

6. An x-ray tube as defined in claim 1, wherein the first metallic component comprises tungsten and the second metallic melt component comprises copper.

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7. An x-ray tube as defined in claim 6, wherein the x-ray tube component comprises:

approximately 80% by weight tungsten as first metallic component; and

approximately 20% by weight copper as the second metallic melt component.

8. An x-ray tube as defined in claim 1, wherein the second metallic melt component includes at least one of the following: nickel, iron, cobalt, and aluminum.

9. An x-ray tube as defined in claim 1, wherein the x-ray tube component comprises:

90% by weight tungsten as the first metallic component;

8% by weight nickel and

2% by weight iron as the second metallic melt component.

10. An x-ray tube component as defined in claim 1, wherein the first metallic component includes at least one of the following: tungsten, copper, molybdenum, tantalum, steel, bismuth, lead, and alloys of the foregoing.

11. An x-ray tube component as defined in claim 1, wherein the component is formed at least partially as an x-ray tube evacuated housing.

12. An x-ray tube component as defined in claim 11 wherein the housing further comprises an adhesion layer that is disposed on the exterior surface of said x-ray tube

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housing, wherein the adhesion layer enhances the bond strength between said x-ray tube housing and a connected structure.

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13. An x-ray generating apparatus comprising:

an integral housing forming a vacuum enclosure, at least a portion of the integral housing is formed of a mixture of metallic components that together limit the amount of x-radiation that is able to pass through the portion of the integral housing to a predetermined level;

an anode assembly having a rotating anode with a target portion, the rotating anode being disposed within the vacuum enclosure; and

a cathode assembly, disposed within the vacuum enclosure, having an electron source capable of emitting electrons that strike the target portion to generate x-rays which are released through a window formed through a side of the integral housing.

14. An x-ray generating apparatus as defined in claim 13, further comprising a region containing a dielectric polymer material that is oriented so as to electrically insulate at least a portion of a high voltage electrical connection to the x-ray generating apparatus.

15. An x-ray generating apparatus as defined in claim 13, further comprising means for transferring heat from the integral housing to a region exterior to the housing.

16. An x-ray generating apparatus as defined in claim 15, wherein the means for transmitting heat is comprised of a plurality of fin structures affixed to at least a portion of the exterior of the integral housing.

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17. An x-ray generating apparatus as defined in claim 16, further comprising a bond coating that is applied to at least a portion of the integral housing and that facilitates a bond between the integral housing and the plurality of fins.

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18. An x-ray generating apparatus as defined in claim 14, wherein the metallic components comprise a first metallic material that is substantially non-transmissive to x-radiation, and a second metallic material, mixed with the first metallic material, so as to form the integral housing portion.

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19. A method of manufacturing an x-ray tube component for use in an x-ray generating apparatus, the method comprising the steps of:

mixing two or more metallic powders to form a metallic powder mixture, at least one of the metallic powders comprising a dense x-ray absorbing material; and

forming the metallic powder mixture into a predetermined shape of the x-ray tube component.

20. A method of manufacturing as defined in claim 19, wherein the dense x-ray absorbing material is selected from one of the following: tungsten, copper, molybdenum, tantalum, steel, bismuth, lead, and alloys of the foregoing.

21. A method of manufacturing as defined in claim 19, wherein at least one of the two or more metallic powders is selected from one of the following: nickel, iron, ,copper, cobalt, or aluminum.

22. A method of manufacturing as defined in claim 19, wherein the forming the metallic powder mixture into the shape of an x-ray tube component step comprises solidifying said metallic powder mixture.

23. A method of manufacturing as defined in claim 22 wherein the forming the metallic powder mixture into the shape of an x-ray tube component step further comprises solidifying said metallic powder mixture using a hot isostatic pressing process to perform said solidifying.

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24. A method of manufacturing as defined in claim 22, wherein the forming the metallic powder mixture into the shape of an x-ray tube component housing step comprises forming a flat sheet of said solidified metallic mixture into the predetermined shape.

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